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SUBSTITUTED FLUOROAROMATIC COMPOUNDS AS SURFACTANTS

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Fluorosurfactants prepared from aliphatic fluorinated compounds are investigated and used a long time yet. But surfactants on the basis of fluorosuromatic compounds are unknown till now. To study the influence of the fluorosuromatic ring on the surface properties of surfactants hexafluorobenzene and its derivatives were used for the reaction with oligo-(oxyethylenes) to form etheralkohols (I):

R-
$$F$$
 + H(OCH₂CH₂)_nOH F R- F (OCH₂CH₂)_nOH
R= F, CF₃, CH₃
n= 1,2,3,4

All etheralkohols I were insoluble in water and were transformed into the corresponding sulfates by sulfatation with chlorosulfonic acid.

Another type of substituted fluoroaromatic compounds was used in the same manner, obtained by reaction of fluorinated and unfluorinated alkohols with hexafluorobenzene:

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$$R'-CH_2OH + F \xrightarrow{KOH} R'-CH_2O-F$$
 $R'=HCH_2(CH_2)_m \xrightarrow{1...10} HCF_2(CF_2)_m \xrightarrow{1,3,5}, 7,9$

The reaction of products II with ethyleneglycol formed the corresponding etheralkohols III which were sulfated too.

$$R'-CH_2O-F$$
 + $HOCH_2CH_2OH$ $\frac{KOH}{80°C}R'-CH_2O-F$ $-OCH_2CH_2OH$

The behaviour and the surface activity of these new type of surfactants are discussed.